

Language Leap Release 2 Summary

Team members:

Member Name	Student Id	Authored Story Points
Alan Ly	6293484	26 Story points
Thomas Rahn	6286852	22 Story points
John Di Girolamo	6202918	7 Story points
David Siekut	6329810	11 Story points
Dror Ozgaon	6296742	24 Story points
Michael Lavoie	9778004	21 Story points
Kwok-Chak Wan	6291643	10 Story points
Quang Tran	6339816	12 Story points

Project summary

The objective of this project is to teach English through the use of space repetition and television series. The project will consist of a website that will enable users to watch a short segment of a television series. Afterwards, the script of the same segment will appear and will allow the user to highlight the words that he or she does not understand. These words will be explained to the user for the context of the segment they have just watched and they will be continuously quizzed about those words which will make up the space repetition aspect of the product.

Velocity

Sprint – Duration	Story Points Planned	Story Points Completed
Sprint 4 – 2 weeks	31 Story points	31 Story points
Sprint 5 – 2 weeks	36 Story points	36 Story points
Sprint 6 – 2 weeks	42 Story points	30 Story points (uncompleted stories moved to next sprint – 12 story points)
Sprint 7 – 2 weeks	48 Story points	36 Story points (uncompleted stories moved to next sprint – 12 story points)

Velocity Sprints 1 to 3 = 40 ± 6 Story points

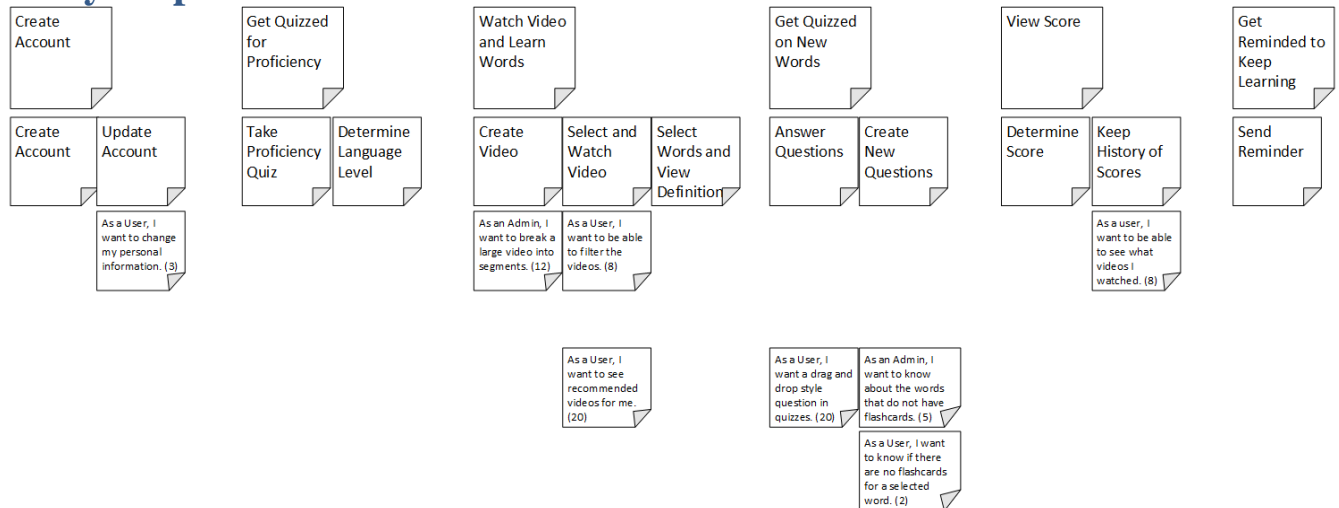
Velocity Sprints 4 to 7 = 33 ± 5 Story points

Total velocity = 36 ± 5 Story points

It is important to note that in Sprint 7, every incomplete story had a Pull-Request made. However, there was not enough time to perform the code review and merge the stories into the Develop branch. For that reason, certain stories had to be moved into next sprint.

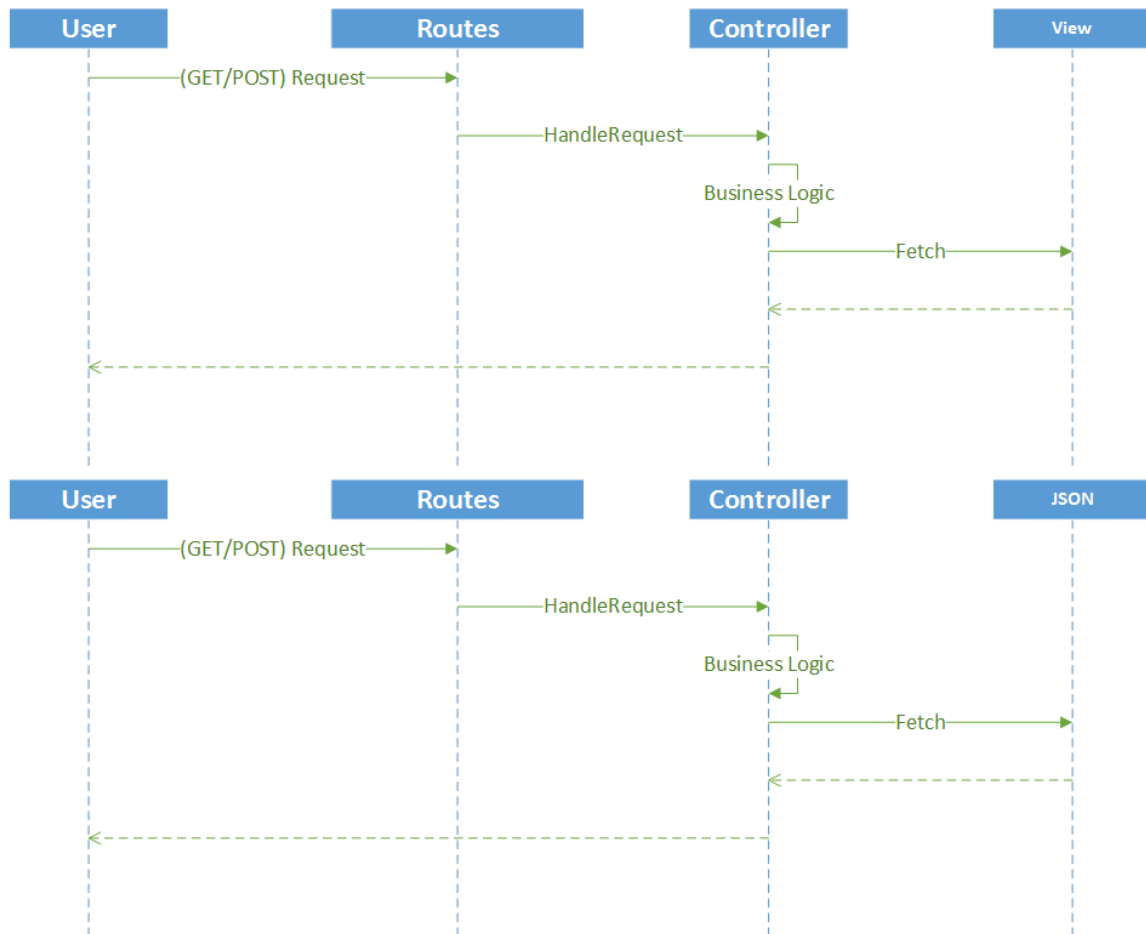
The reasoning behind the increase in story points while planning for sprints 6 and 7 is due to the fact that the team had more free time for work as there were no courses to interfere with the project. This was done in order to tailor the process into the way the project is running. That is, based on the availability of the team members.

Story map for next release

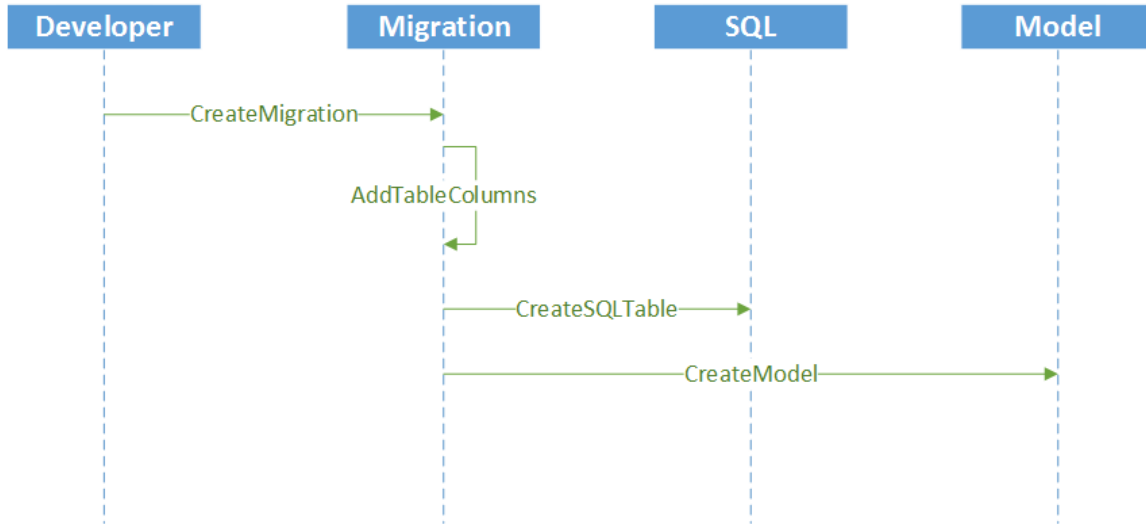


Overall Arch and Class diagram

The framework chosen for this project was Laravel. Laravel handles the Routes, the controllers and the views. Furthermore, it allows access to the database through Object Relational Mapping. The figure below demonstrates the way Laravel handles requests.

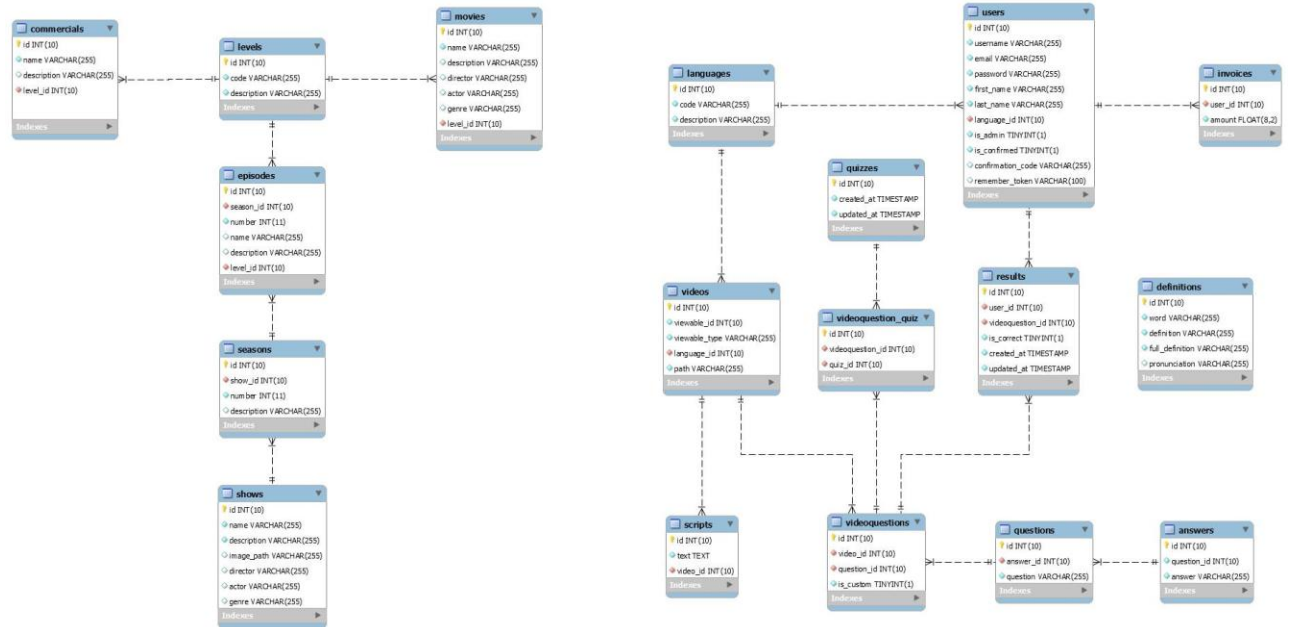


For the database, Laravel creates Migrations and Seeds. Migrations are simplified methods to create database schemas. Seeds allow for database population through simplified commands. The steps to go through creating a database schema are demonstrated below.



These migrations can then be pushed and pulled from the GIT repository and then loaded onto the development environment. Then, models can be created from these database schemas.

The database architecture can be seen below. The team chose a relational database mainly because of the stakeholder's request to create a functional prototype as soon as possible for testing purposes.



The main issue faced with the architecture this release was caused by a new requirement to allow the administrator to add custom quizzes. This means that the administrator can insert a series of questions and answers for a certain video. The issue came to be due to the fact that only 1 quiz system was mentioned beforehand. The older quiz system required the user to select words he does not understand, and the system will then ask the user for the definitions of those words.

To fulfill this requirement the architecture of the quiz system had to be more modular in order to allow different types of quizzes. First, the database schema had to be changed in order to allow the admin to store custom questions and answers, while also making sure that the old quiz system can work. Second, the quiz creation algorithm had to be refactored using various design patterns:

- **Factory** – Quiz creation is complicated so it's factored out into the factory which will handle the creation.
- **Decorator** – Separate the quiz validation from the domain logic. If ever a requirement requires logging the quiz, we can decorate it instead of making the function very bulky.
- **Façade** – There are lots of dependencies for the quiz system. Creating a Façade will allow the dependencies to be reduced to 1.

Code

Key Files

File #1

File	QuizFactory.php
Link	https://github.com/alanly/languageleap/blob/develop/app/LangLeap/QuizUtilities/QuizFactory.php
Purpose	Handles the production of the final quiz which is to be presented to the end-user.
Primary Author	Quang Tran
Notes	

File #2

File	EnglishDictionary.php
Link	https://github.com/alanly/languageleap/blob/develop/app/LangLeap/DictionaryUtilities/EnglishDictionary.php
Purpose	Provides the necessary methods of retrieving dictionary data for an English word.
Primary Author	Dror Ozgaon
Notes	

File #3

File	ValidatedModel.php
Link	https://github.com/alanly/languageleap/blob/develop/app/LangLeap/Core/ValidatedModel.php
Purpose	Provides natural validation for models immediately upon save operations.
Primary Author	Alan Ly
Notes	

File #4

File	script-editor.admin.js
Link	https://github.com/alanly/languageleap/blob/develop/public/js/script-editor.admin.js
Purpose	Provides the behavior for the administrative script editor interface.
Primary Author	Michael Lavoie
Notes	

File #5

File	ApiVideoController.php
Link	https://github.com/alanly/languageleap/blob/develop/app/controllers/ApiVideoController.php

Purpose	Handles and processes requests concerning video media.
Primary Author	Thomas Rahn
Notes	

Incomplete Parts

Part #1

System	Billing/Payment System
Purpose	The billing system has been put on hold by the Stakeholder, it currently contains some database models, but includes no useful functionality.

Part #2

System	Video Selection Menu
Purpose	The selection menu was put in place as a prototype in order to be tested with potential users. Some of the current code will be potentially reused, but it is also possible that the selection menu will be reworked based on user feedback.

Testing

The team follows a Test Driven Design approach. This means that there are always tests written before any functionality is coded. With that being said, the team performs unit and integration testing on the entire PHP code base. However, the front-end JavaScript is manually tested whenever there are changes since JavaScript is harder to test using automation. To continue, the team enforces a Pull Request method which ensures that the entire code base is reviewed before being pushed in the Develop GIT branch. This ensures that there is code review for any user story that is being pushed. The latter also remedies the fact that JavaScript code is only manually tested. With this approach, the JavaScript code is also reviewed by other team members. In addition, to ensure high quality code which meets standards, all stories require an acceptance test which is part of each story's description.

Story summaries

Sprint 4

Story	LANGLEAP- 34: As an Admin, I want to be able to CRUD scripts.
Story points	8 points
Priority	High
Risk	Medium
Tasks	LANGLEAP- 64: Allow the admin to upload, remove, or modify a script. LANGLEAP-65: Allow the admin to insert definitions for words in the script.
Link	http://jira.stumpfwerk.com:8080/browse/LANGLEAP-34

Story	LANGLEAP- 4: As a User, I would like to be quizzed on words I don't understand.
Story points	20 points
Priority	High
Risk	High
Tasks	LANGLEAP- 71: Create the quiz style and front end. LANGLEAP- 72: Create the API for the quiz.
Link	http://jira.stumpfwerk.com:8080/browse/LANGLEAP-4

Story	LANGLEAP- 2: As a User, I want to be able to select words I don't understand from a script.
Story points	3 points
Priority	Medium
Risk	Low
Tasks	LANGLEAP- 66: Allow the user pick words that he does not understand.
Link	http://jira.stumpfwerk.com:8080/browse/LANGLEAP-2

Sprint 5

Story	LANGLEAP-95: As an Admin, I want to be able to insert custom Quizzes.
Story points	20 points
Priority	High
Risk	High
Tasks	LANGLEAP-96: Plan the changes. LANGLEAP-98: Create new DB models. LANGLEAP-99: Create the front end of the quiz system. LANGLEAP-100: Create Interface for custom quizzes. LANGLEAP-101: Create the backend of the quiz system.
Link	http://jira.stumpfwerk.com:8080/browse/LANGLEAP-95

Story	LANGLEAP- 93: As an Admin, I want shortcuts to the most common administrative actions upon logging in.
Story points	3 points
Priority	Medium
Risk	Low
Tasks	None
Link	http://jira.stumpfwerk.com:8080/browse/LANGLEAP-93

Story	LANGLEAP- 38: As a User, I want to be able to CRUD an account.
Story points	8 points
Priority	High
Risk	Medium
Tasks	LANGLEAP-83: Create the front-end of the form. LANGLEAP-84: Create the registration API.
Link	http://jira.stumpfwerk.com:8080/browse/LANGLEAP-38

Story	LANGLEAP- 3: As a User, I want to be able to authenticate myself.
Story points	5 points
Priority	High
Risk	Low
Tasks	LANGLEAP-89: Create the front-end of the form. LANGLEAP-90: Create the API to authenticate a user.
Link	http://jira.stumpfwerk.com:8080/browse/LANGLEAP-3

Sprint 6

Story	LANGLEAP- 81: As a user, I want to have an immediate definition for the words I don't understand.
Story points	14 points
Priority	High
Risk	Medium
Tasks	LANGLEAP-102: Find a suitable API to query for definitions. LANGLEAP-103: Create the back end for the API. LANGLEAP-104: Create the front end for displaying the immediate definitions. LANGLEAP-111: Need to create a client for the Wordnik API.
Link	http://jira.stumpfwerk.com:8080/browse/LANGLEAP-81

Story	LANGLEAP- 80: As a user, I want an audio pronunciation of the word.
Story points	8 points
Priority	High
Risk	Medium
Tasks	LANGLEAP-109: Create the API to play pronunciations. LANGLEAP-110: Create the front end.
Link	http://jira.stumpfwerk.com:8080/browse/LANGLEAP-80

Story	LANGLEAP- 51: As a Product Owner, I want a future-proof website that can easily adapt to new languages.
Story points	8 points
Priority	High

Risk	Low
Tasks	LANGLEAP-107: Modify existing content to translate. LANGLEAP-108: Create the API to allow toggling languages.
Link	http://jira.stumpfwerk.com:8080/browse/LANGLEAP-51

Sprint 7

Story	LANGLEAP-114: As an Admin, I want to be able to insert the Level of a video.
Story points	5 points
Priority	Medium
Risk	Low
Tasks	LANGLEAP-123: Create the front end. LANGLEAP-124: Create backend.
Link	http://jira.stumpfwerk.com:8080/browse/LANGLEAP-114

Story	LANGLEAP-113: As a User, I want to be able to see the Level for each video.
Story points	5 points
Priority	Medium
Risk	Low
Tasks	LANGLEAP-125: Create the backend. LANGLEAP-126: Create the front end. LANGLEAP-137: Refactor the Media types to have a common type.
Link	http://jira.stumpfwerk.com:8080/browse/LANGLEAP-113

Story	LANGLEAP-112: As a User, I want to be able to select words which have not been defined by the administrator.
Story points	5 points
Priority	Medium
Risk	Low
Tasks	LANGLEAP-128: Modify existing script to allow selection of all words.
Link	http://jira.stumpfwerk.com:8080/browse/LANGLEAP-112

Story	LANGLEAP-94: As a User, I would like to be able to skip the ranking process.
Story points	5 points
Priority	Low
Risk	Low
Tasks	LANGLEAP-129: Create the front end. LANGLEAP-130: Create the backend.
Link	http://jira.stumpfwerk.com:8080/browse/LANGLEAP-94

Notes	Pull-Request has been submitted, but not accepted. Story moved to next sprint.
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Story	LANGLEAP-82: As a user, I want to be able to control the speed of the video.
Story points	3 points
Priority	High
Risk	Low
Tasks	LANGLEAP-105: Design and create the front end of the player with new Fast forward buttons. LANGLEAP-106: Create the functionality to Fast Forward, Slow Down videos.
Link	http://jira.stumpfwerk.com:8080/browse/LANGLEAP-82

Story	LANGLEAP-45: As a User, I want to be ranked the first time I login.
Story points	5 points
Priority	Medium
Risk	Low
Tasks	LANGLEAP-85: Create the front-end to test user's level. LANGLEAP-86: Create the first time login quiz API.
Link	http://jira.stumpfwerk.com:8080/browse/LANGLEAP-45
Notes	Pull-Request has been submitted, but not accepted. Story moved to next sprint.

Story	LANGLEAP-42: As a User, I want to be reminded when I need to be quizzed.
Story points	3 points
Priority	High
Risk	Medium
Tasks	LANGLEAP-91: Create functionality to remind user to do quizzes that need to be done.
Link	http://jira.stumpfwerk.com:8080/browse/LANGLEAP-42
Notes	Story functionality is complete, but requires refactoring. Story moved to next sprint.

Story	LANGLEAP-40: As a User, I want to see my English level.
Story points	5 points
Priority	Medium
Risk	Low
Tasks	LANGLEAP-87: Create the front-end of the English-level displaying system. LANGLEAP-88: Create the API to view user's English level.

Link	http://jira.stumpfwerk.com:8080/browse/LANGLEAP-40
Notes	Pull-Request has been submitted, but not accepted. Story moved to next sprint.

Story	LANGLEAP-5: As a User, I want to be able to view my quiz score.
Story points	5 points
Priority	High
Risk	Low
Tasks	LANGLEAP-73: Create the style for the quiz score and the front end. LANGLEAP-74: Create the API for the score.
Link	http://jira.stumpfwerk.com:8080/browse/LANGLEAP-5

Story	NFR - LANGLEAP-131: As an administrator, I want a consistent login and registration screen because it gives users a consistent experience.
Story points	3 points
Priority	Low
Risk	Low
Tasks	LANGLEAP-132: Create a consistent UI design that can be reused for both processes. LANGLEAP-133: Implement the design for the login and account confirmation interface. LANGLEAP-134: Implement the design for the registration interface.
Link	http://jira.stumpfwerk.com:8080/browse/LANGLEAP-131

Improvement	LANGLEAP-145: Update English dictionary API client to enable queries for word synonyms.
Story points	1 points
Priority	High
Risk	Low
Tasks	
Link	http://jira.stumpfwerk.com:8080/browse/LANGLEAP-145

Improvement	LANGLEAP-146: Update script to display Synonyms when hovering over.
Story points	2 points
Priority	High
Risk	Low
Tasks	
Link	http://jira.stumpfwerk.com:8080/browse/LANGLEAP-145

Bug	LANGLEAP-135: Unverified users can log in.
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Story points	1 points
Priority	High
Risk	Low
Tasks	
Link	http://jira.stumpfwerk.com:8080/browse/LANGLEAP-135